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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,913	04/20/2001	Leonard Charles Layton	LAKE009-1	3379

21921 7590 10/01/2003

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EXAMINER

PENDLETON, BRIAN T

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 10/01/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/838,913

Applicant(s)

LAYTON ET AL.

Examiner

Brian T. Pendleton

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, and 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerzon et al, US Patent 5,757,927 in view of Gefvert, US Patent 5,850,457.

Gerzon et al disclose a surround sound apparatus comprising a sound source, surround sound decoder 2 which processes B-Format signals for decoding multichannel sound signals (per claims 2, 5 and 7), amplifiers 3 and a plurality of speakers 4. Figure 6 shows a speaker layout with at least two speakers orthogonal to each other. Gerzon et al do not teach that the decoded signals are sent to a single speaker cabinet with a plurality of speakers, two of which are orthogonal to each other, for reproducing the multichannel sound signals at virtual locations. Gefvert disclose a multi-dimensional sound system comprising an audio amplifier 78 and speaker enclosure 50 having a plurality of speakers. The purpose of the Gefvert invention is to reproduce a multichannel sound source using only one speaker cabinet. It was taught in column 4 lines 60-63 that the system can be used for Ambisonic (B-Format) signals. The audio amplifier 78 used time delays to create virtual sound sources from the input signals. As suggested in column 5 lines 38-43, the advantage of the system was to be able to reduce the number of loudspeakers while still reproducing the multi-dimensional sound.

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to integrate the teachings of Gefvert in the invention disclosed by Gerzon et al. The Gerzon et al invention would be modified by including time delays in the surround sound decoder 2 to generate virtual sound sources and replacing the plurality of speakers 4 with the speaker enclosure 92 of Gefvert which has speakers orthogonal to each other. Independent claims 1, 4 and 6 are met.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gerzon et al in view of Gefvert as applied to claim 1 above, and further in view of Fosgate. The combination of Gerzon et al and Gefvert teach a sound system with a B-Format decoder that produces virtual sound sources coupled to a speaker cabinet having a plurality of speaker units, at least two orthogonal to each other. However, the combination does not disclose that the speaker cabinet is on the roof of a room. Fosgate discloses a ceiling mounted speaker. One of ordinary skill in the art would have been motivated to provide a ceiling mounted speaker since it conserves space in a listening environment. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Fosgate in the combination of Gerzon et al and Gefvert.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yanagawa et al, US Patent 5,953,432.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Pendleton whose telephone number is (703) 305-9509. The examiner can normally be reached on M-F 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.



Brian Tyrone Pendleton
September 20, 2003



XU MEI
PRIMARY EXAMINER